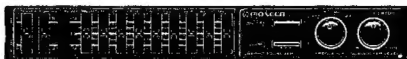


Service Manual



PIONEER®
The future of sound and vision.

EQ-6000



ORDER NO.
CRT 1229

GRAPHIC EQUALIZER

EQ-6000

UC

EQ-4000

UC

SPECIFICATIONS

Power source DC 14.4 V (10.8 – 15.6 V allowable)
Grounding system Negative type
Dimensions (chassis) 178(W) × 25(H) × 120(D) mm
[7(W) × 1(H) 4-3/4(D) in.]
(nose) 170(W) × 24(H) × 12.5(D) mm
[6-3/4(W) × 1(H) × 1/2(D) in.]
Weight 0.5 kg (1.1 lbs.)
Equalization frequency
(EQ-6000) 40 – 80 Hz (Parametric), 125 Hz, 250 Hz,
500 Hz, 1 KHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
(EQ-4000) 60 Hz, 125 Hz, 250 Hz, 500 Hz,
1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
Gain 0 dB
Equalization range ± 12 dB
Frequency response 20 – 30,000 Hz (± 3 dB)
Distortion 0.05% (1 kHz, 500 mV)
Signal-to-noise ratio 101 dB (IHF-A network)

Input impedance 10 kΩ
Output impedance 1 kΩ
Max. output level 2 V/1 kHz, 1% THD.
Subwoofer (EQ-6000)
Crossover frequency 50 Hz/80 Hz/120 Hz
Crossover slope – 12 dB/octave
Output gain – ∞ – + 10 dB (L + R)
Phase switch 0/180°

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

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ES JUNE 1989 Printed in Japan

1. CONNECTING THE UNITS

2-speaker system + Subwoofer (EQ-6000)

- Be sure to set the Crossover Frequency Switch at any position but "OFF".

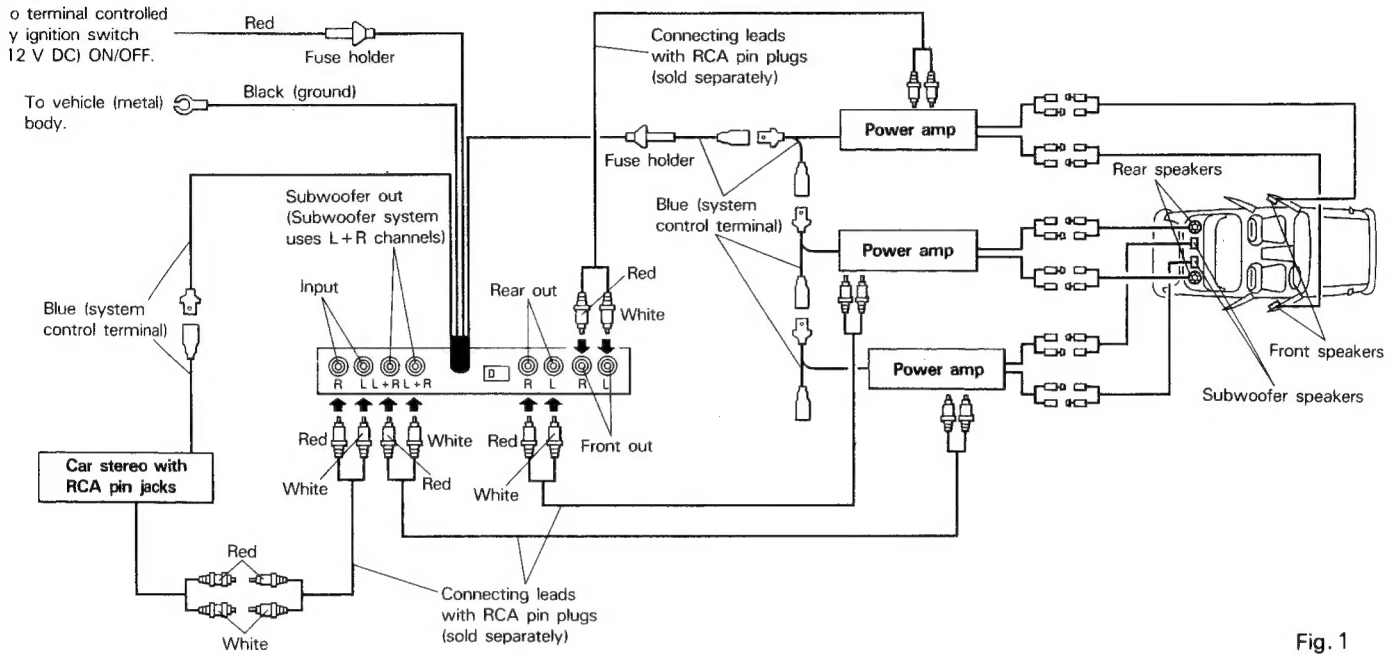


Fig. 1

4-speaker system

EQ-6000

- Be sure to set the Crossover Frequency Switch at the "OFF" Position.

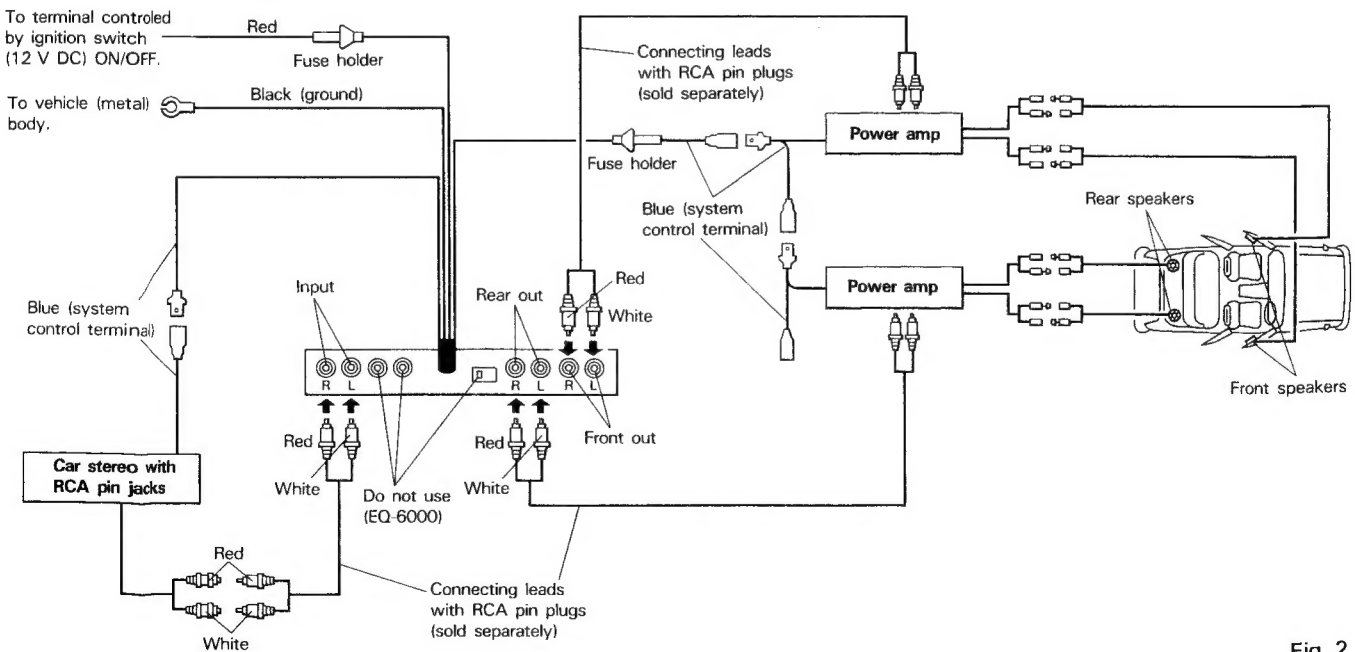


Fig. 2

2. CONTROLS AND THEIR USE

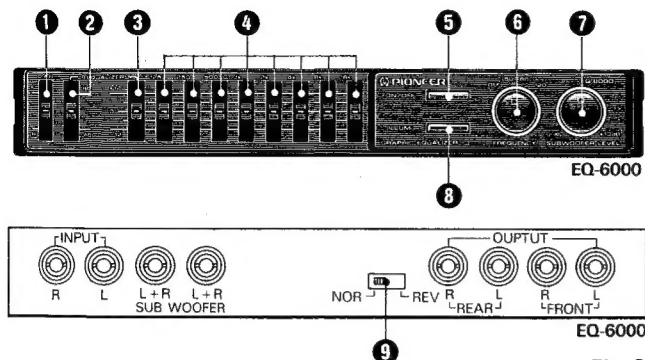


Fig. 3

EQ-6000

① Dual Amp Balancer

Allows adjustment of the balance between the front and rear speakers. Moving upwards causes rear speaker output to be reduced until only the front speaker sounds. Moving downwards causes front speaker output to be reduced until only the rear speaker sounds.

② Parametric Frequency Control

Use this control to change heavy bass frequency when operating the parametric equalizer. The control allows to choose your desired frequency from between 40 Hz and 80 Hz according to the type of speakers and the piece of music listened to.

③ Parametric Level Control

Use this control to adjust the level of the heavy bass frequency sound chosen with the Parametric Frequency Control ②.

④ Equalizer Control

Sliding vertically allows creation of a desired sound.

⑤ Equalization Switch

Press this button, and ②, ③, and ④ lever indicators will illuminate and the equalizer control function will activate.

⑥ Crossover Frequency Switch

Allows to change the upper limit of crossover low range frequency for subwoofer speakers or the lower limit of crossover mid to high range frequency for other speakers. Select the best crossover frequency while listening to music according to the acoustic characteristics of both cabin and speakers. Set the switch at the "OFF" position when not using the subwoofer system.

⑦ Subwoofer Level Control

Allows adjustment of the output level of the subwoofer speaker. Use this control to adjust the low range of the output.

⑧ Illumination Color Change

To change illumination color, press the button Illumination Color Change. Pressing allows change from green to amber and vice versa.

⑨ Subwoofer Phase Switch

Allows switching of the phase of the subwoofer speaker. Usually this switch is left in the NOR (normal) position. Set to the REV (reverse phase) position to switch the phase to accommodate for speaker position and music type.

- Controls ⑥, ⑦ and ⑨ operate when the subwoofer system is connected.
- If your car stereo has a fader control, set it to the center position.
- Changes in low pitched sounds may not be discernible even when the 40 to 80 Hz frequency level is adjusted if the program source does not include components in the 40 to 80 Hz vicinity or if the small diameter speakers are used.
- Changes in high pitched sounds may not be discernible even when the 16 kHz frequency level is adjusted if the program source does not include components in the 16 kHz vicinity.

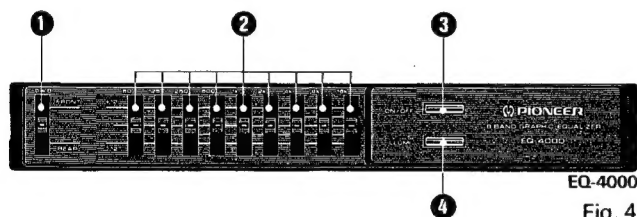


Fig. 4

EQ-4000

① Dual Amp Balancer

Allows adjustment of the balance between the front and rear speakers. Moving upwards causes rear speaker output to be reduced until only the front speaker sounds. Moving downwards causes front speaker output to be reduced until only the rear speaker sounds.

② Equalizer Control

Sliding vertically allows creation of a desired sound.

③ Equalization Switch

Press to activate the equalizer control function and illuminate the indicator on the equalizer control lever.

④ Illumination Color Change

To change illumination color, press the button Illumination Color Change. Pressing allows change from green to amber and vice versa.

- If your car stereo has a fader control, set it to the center position.
- Changes in low pitched sounds may not be discernible even when the 60 Hz frequency level is adjusted if the program source does not include components in the 60 Hz vicinity or if the small diameter speakers are used.
- Changes in high pitched sounds may not be discernible even when the 16 kHz frequency level is adjusted if the program source does not include components in the 16 kHz vicinity.

• ICs and Transistors

2SC1740SLN



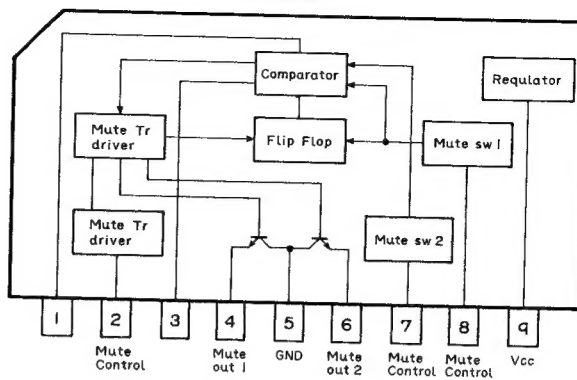
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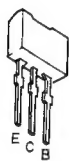
2SC4038
2SB1237
2SD1858
2SB1240



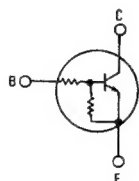
TA7362P



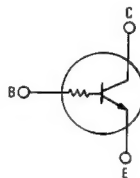
DTC124TL
DTC114EL
DTA144TL



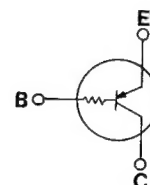
DTC114EL



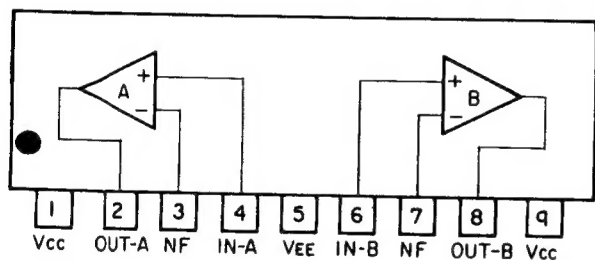
DTC124TL



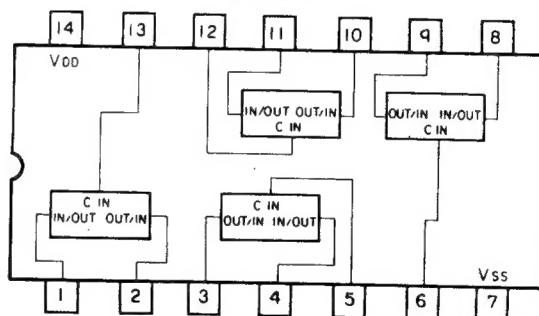
DTA144TL



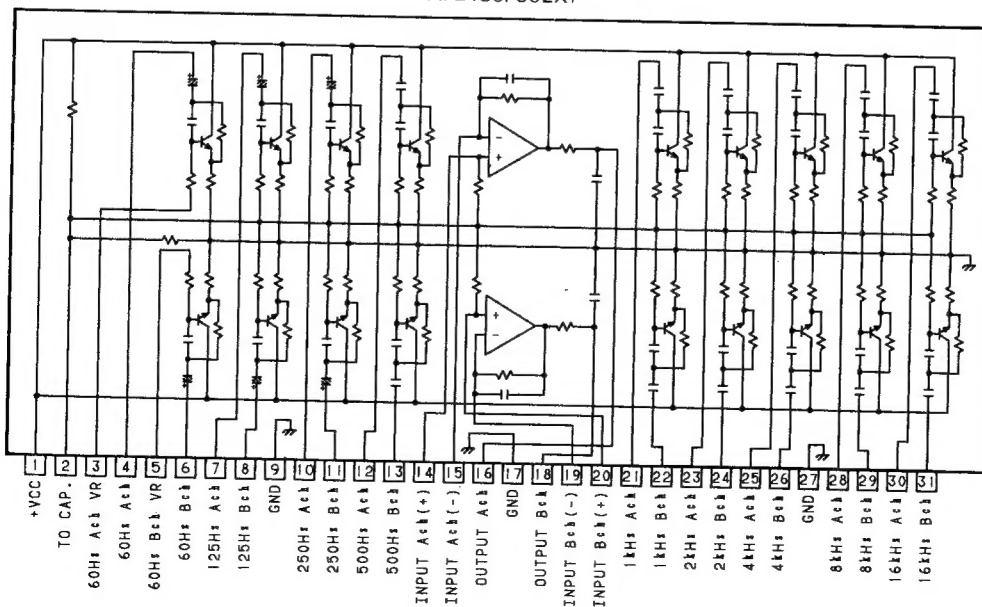
μPC4570HA



BU4066B



AFE436F002X1



3. BLOCK DIAGRAM

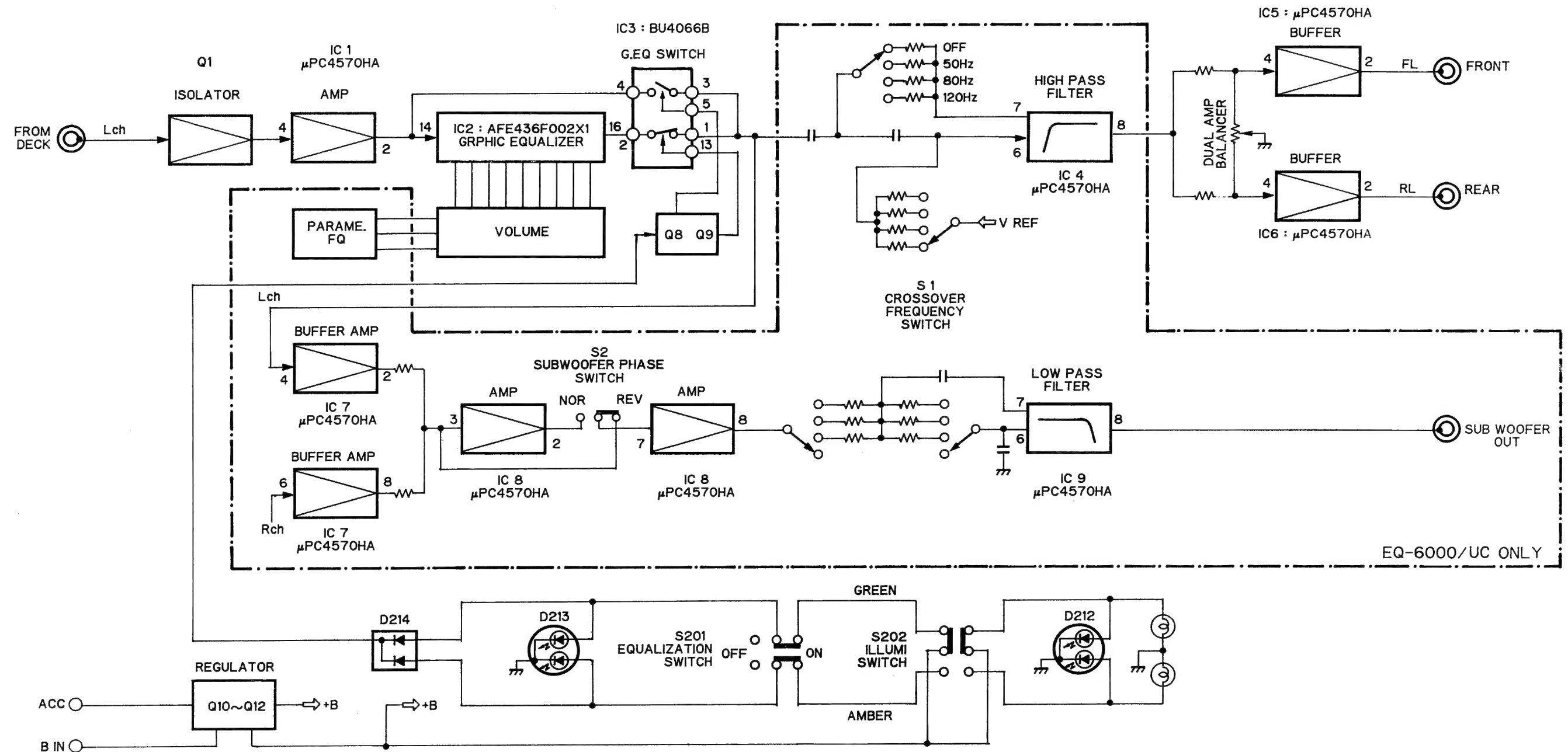


Fig. 5

5. CONNECTION DIAGRAM (EQ-6000)

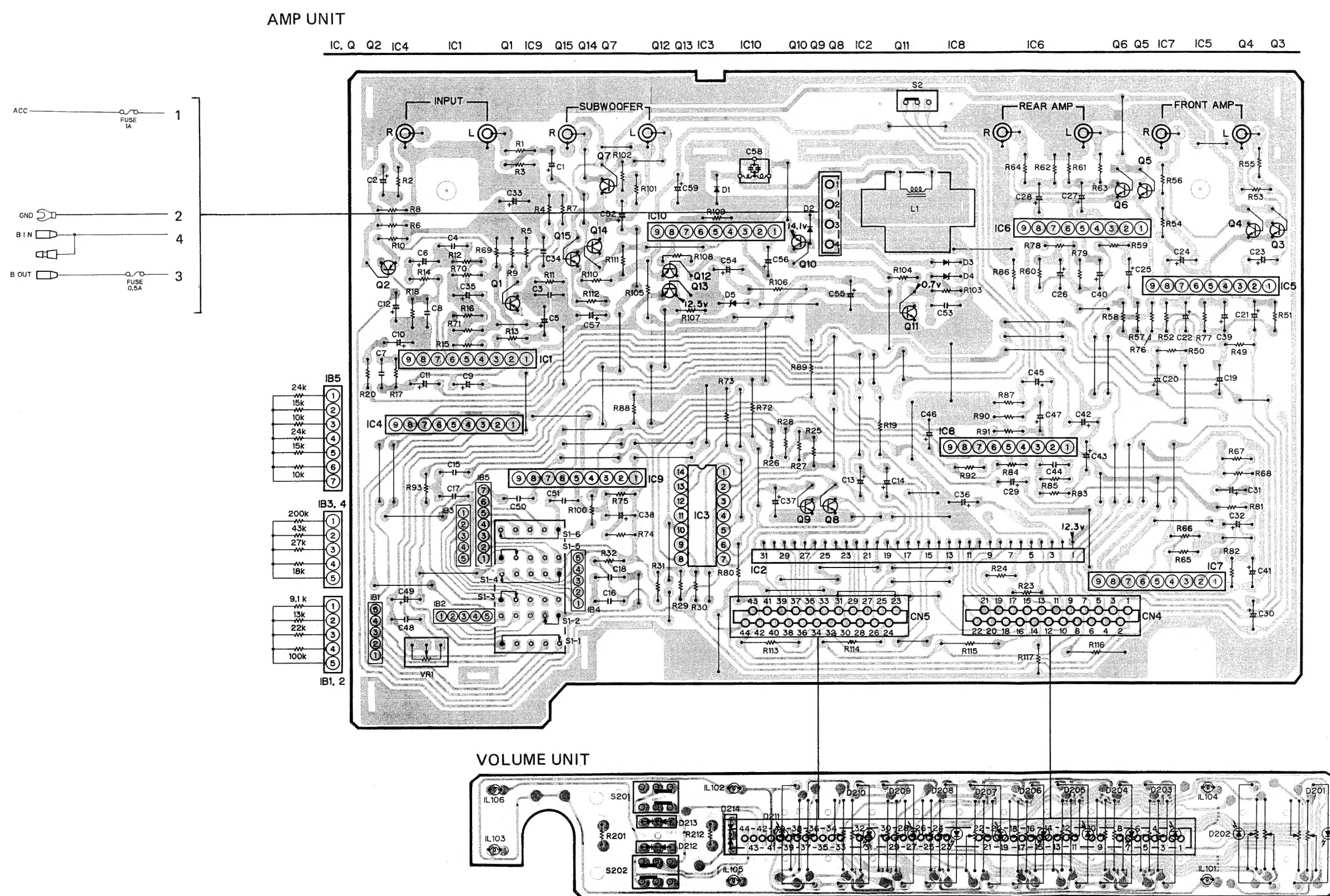


Fig. 7

7. CONNECTION DIAGRAM (EQ-4000)

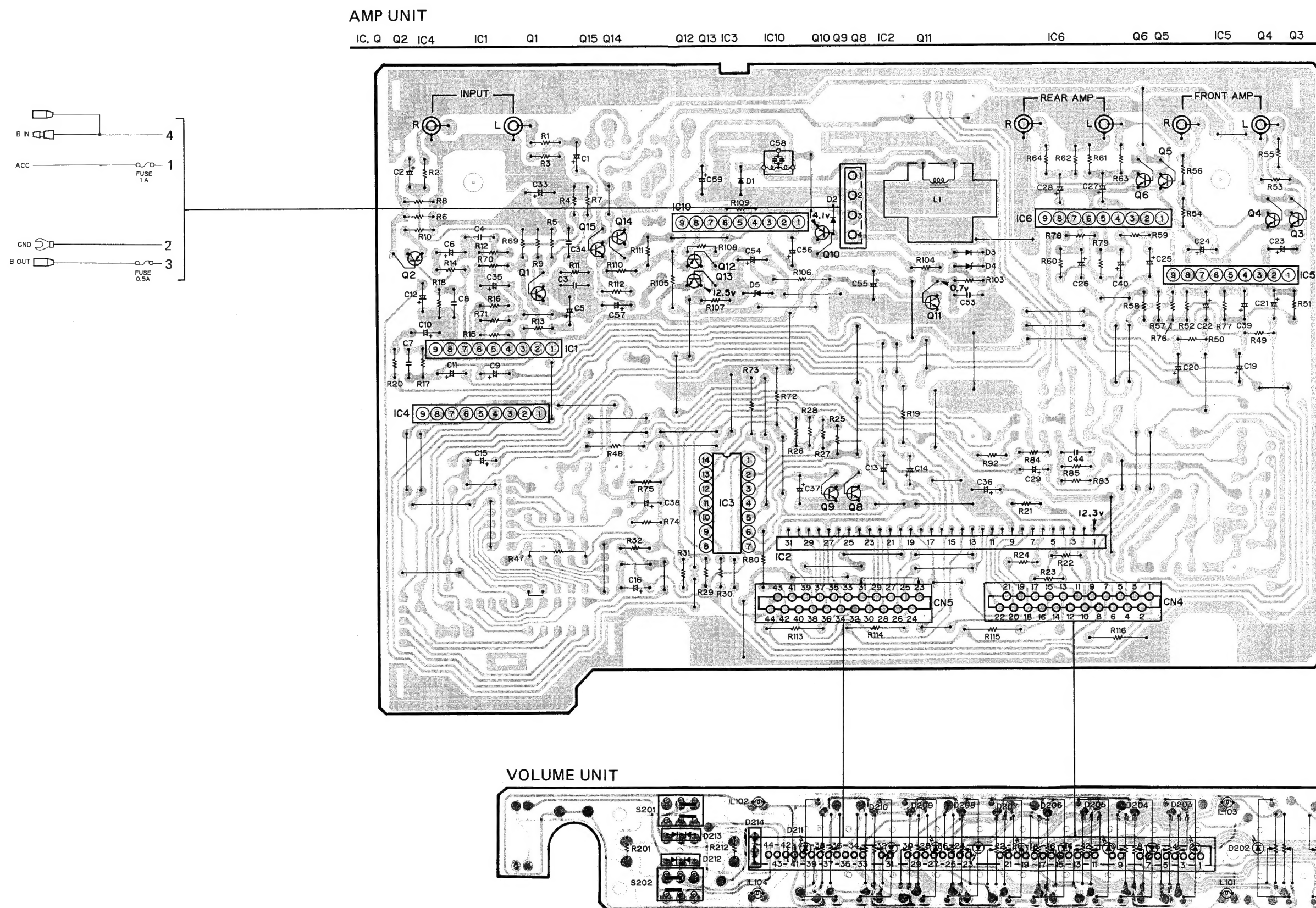
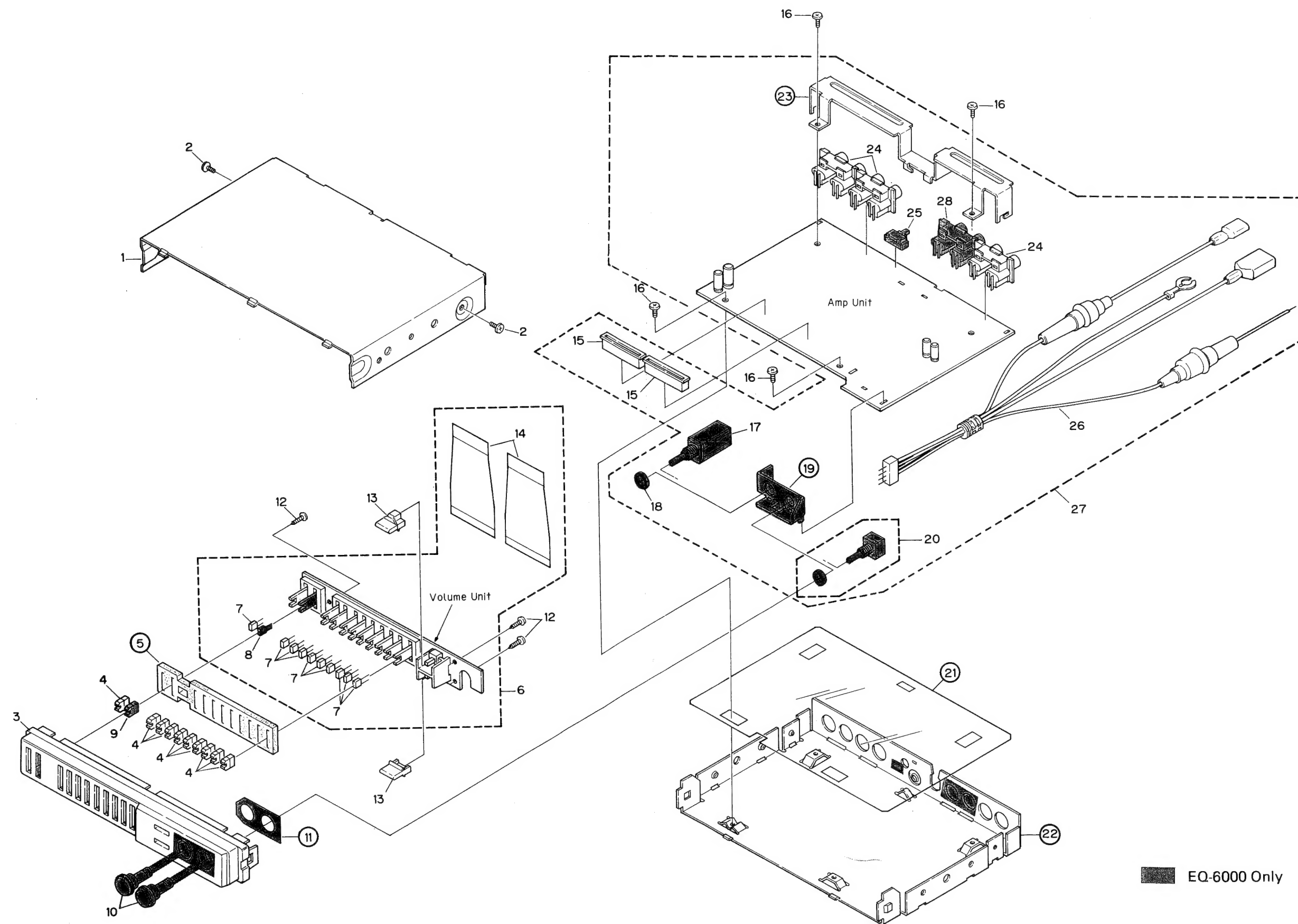


Fig. 9

8. EXPLODED VIEW



EQ-6000 Only

Fig. 10

NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

• Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
	1 Case	CZN2088		18 Nut (EQ-6000)	CZB2007
	2 Screw	BMZ30P040FZK		19 Bracket (EQ-6000)	
	3 Grille Sub Assy (EQ-6000)	CZX2047	★ ★	20 Volume (EQ-6000)	CZC2022
	Grille Sub Assy (EQ-4000)	CZX2049		21 Insulator	
				22 Chassis	
★	4 Knob	CZA3103		23 Bracket	
	5 Cover			24 Pin Jack	CKS1602
●	6 Volume Assy (EQ-6000)	CZW3110	★ ★	25 Switch	CZS2023
	Volume Assy (EQ-4000)	CZW3111		26 Connector Assy	CZD3128
★	7 LED	PY3452K	●	27 P. C. Board Unit (EQ-6000)	CZW3125
				P. C. Board Unit (EQ-4000)	CZW3126
★	8 LED (EQ-6000)	PY3452K			
★	9 Knob (EQ-6000)	CZA3103			
★	10 Knob (EQ-6000)	CZA2084		28 Pin Jack (EQ-6000)	CKS1602
	11 Spacer (EQ-6000)				
	12 Screw	PVZ17P070FMC			
★	13 Button	CZA2085			
	14 P. C. Board	CZN3234			
	15 Plug	CKS1445			
	16 Screw	BMZ26P050FMC			
★ ★	17 Switch (EQ-6000)	CZS2022			

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	1	2 5 6 11 12 13 14 19 20		CEA100M16L2	
C	3	4		CKPYB102K50L	
C	7	8 44		CCPSL330J50L	
C	9	10		CEA220M16L2	
C	15	16 17 18		CQFA104J50L	
C	21	22 23 24 25 26 27 28 29 30		CEA100M16L2	
C	31	32 42 43 45 47 49 52 57		CEA100M16L2	
C	33	1000 μ F/10V		CZC2015	
C	34			CQFA473J50L	
C	35			CEA331M10L2	
C	36	39 40		CEA101M10L2	
C	37			CEAR22M50L2	
C	38			CEA471M10L2	
C	41	46 54		CEA221M16L2	
C	48			CKPYB101K50L	
C	50			CQFA184J50L	
C	51			CQMA913J50	
C	53			CKPYB821K50L	
C	55			CEA471M16L2	
C	56			CEA4R7M35L2	
C	58			CZC2005	
C	59	1000 μ F/16V		CZC2014	

Unit Number :
Unit Name : Amp Unit (EQ-4000)

MISCELLANEOUS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
** IC	1	4 5 6		μ PC4570HA	
** IC	2			AFE436F002X1	
** IC	3			BU4066B	
** IC	10			TA7362P	
** Q	1	2		2SA933SLN	
** Q	3	4 5 6 8		DTC124TL	
** Q	9			2SC1740SLN	
** Q	10			2SB1240	
** Q	11	14		DTC124GL	
** Q	12			2SB1237	
** Q	13			2SD1858	
** Q	15			DTA144TL	
* D	1	2		1SR139-200T	
* D	3			1SS133	
* D	4			HZS6R8EB2	
* D	5			HZS12EB3	
L	1			CTH1016	
				Choke Coil	

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	1	2		RD1/4PS752JL	
R	3	4 108		RD1/4PS682JL	
R	5	6		RD1/4PS273JL	
R	7	8		RD1/4PS393JL	
R	9	10 11 12 55 56 63 64		RD1/4PS821JL	

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	13	14 15 16 25 26 27 28 76 77		RD1/4PS103JL	
R	17	18		RD1/4PS433JL	
R	19	20		RD1/4PS272JL	
R	21	22		RD1/4PS243JL	
R	23	24		RD1/4PS391JL	
R	29	30		RD1/4PS301JL	
R	31	32		RD1/4PS203JL	
R	47	48 51 52 59 60		RD1/4PS104JL	
R	49	50 57 58		RD1/4PS302JL	
R	53	54 61 62 111		RD1/4PS223JL	
R	69			RD1/4PS182JL	
R	70	71 74 75		RD1/4PS562JL	
R	72	73 104 106 110		RD1/4PS222JL	
R	78	79 105		RD1/4PS103JL	
R	80			RD1/4PS473JL	
R	103			RD1/4PS472JL	
R	107	112		RD1/4PS102JL	
R	109			RD1/4PS332JL	
R	113	114 115		RD1/4PS911JL	
R	116			RD1/4PS152JL	

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	1	2 5 6 11 12 13 14 15 16		CEA100M16L2	
C	3	4		CKPYB102K50L	
C	7	8		CCPSL330J50L	
C	9	10		CEA220M16L2	
C	19	20 21 22 23 24 25 26 27 28		CEA100M16L2	
C	33	1000 μ F/10V		CZC2015	
C	34			CQFA473J50L	
C	35			CEA331M10L2	
C	36	39 40		CEA101M10L2	
C	37			CEAR22M50L2	
C	38			CEA471M10L2	
C	53			CKPYB821K50L	
C	54			CEA221M16L2	
C	55			CEA471M16L2	
C	56			CEA4R7M35L2	
C	57			CEA100M16L2	
C	58			CZC2005	
C	59	1000 μ F/16V		CZC2014	

10. PACKING METHOD

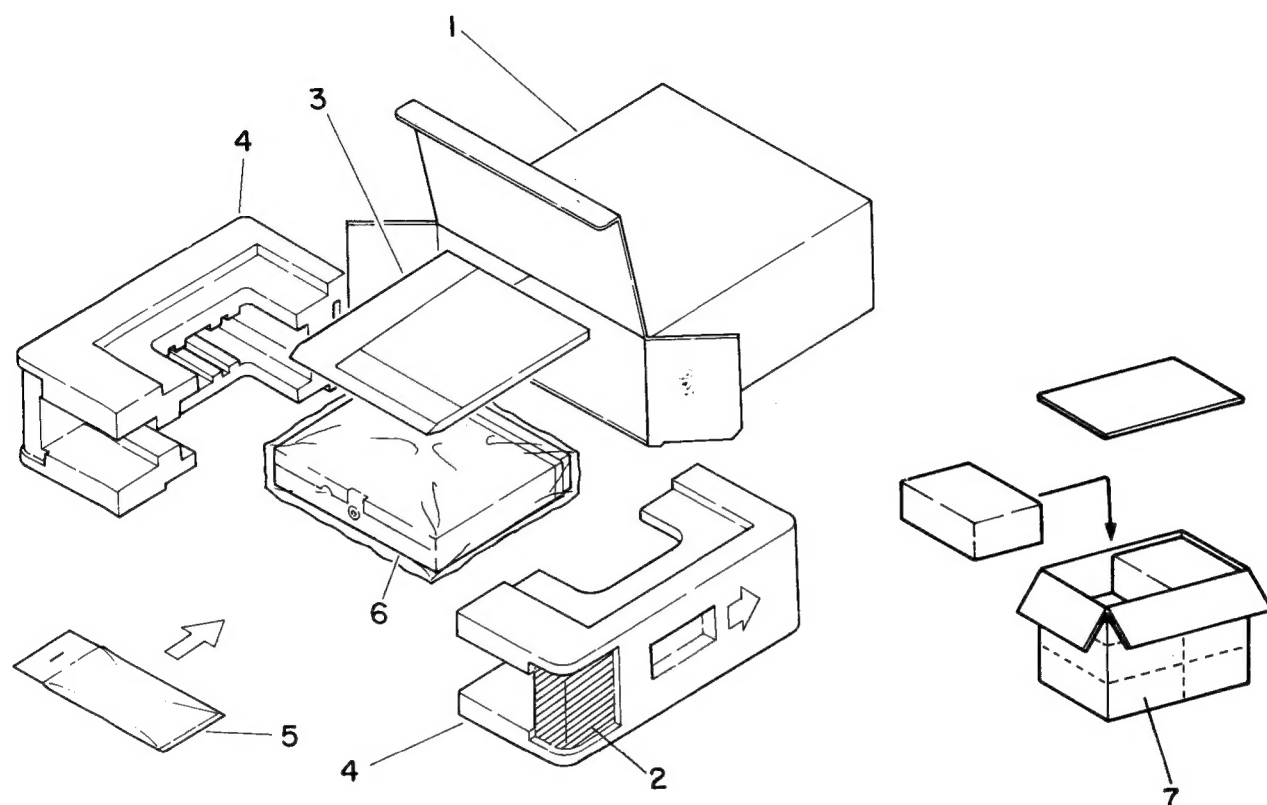


Fig. 11

• Parts List

Mark No.	Description	Part No.
1	Carton (EQ-6000)	CZH3174
	Carton (EQ-4000)	CZH3177
2	Mounting Bracket	CZN3208
3	Card	
	Owner's Manual	CZR2070
4	Styrofoam	CZH3197
5	Screw Assy	
5-1	Screw (× 4)	HMF40P100FZK
5-2	Screw (× 4)	CBA-102
5-3	Nut (× 4)	NF50FMC
6	Cover	CEG-157
7	Contain Box (EQ-6000)	CZH3175
	Contain Box (EQ-4000)	CZH3178